UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,571	06/03/2005	Hoi Yeung Chan	YOR920020206US1 (8728-587	4559

46069	7590	05/23/2008

F. CHAU & ASSOCIATES, LLC
130 WOODBURY ROAD
WOODBURY, NY 11797

EXAMINER
BROWN JR, NATHAN H

ART UNIT	PAPER NUMBER
2129	

MAIL DATE	DELIVERY MODE
05/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *(3)* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-10,13,16-18,20 and 36* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-10, 13, 16-18, 20 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for

application 10/537,571, filed February 19, 2008.

2. Claims 1, 3-10, 13, 16-18, 20, and 36 are pending. Claims

1, 3, 4, 5, and 36 are currently amended. Claims 2, 11, 12, 14,

15, 19, and 21-35 are cancelled. Claims 6, 7, 9, 10, 13, 16-18,

and 20 are previously presented. Claim 8 is original.

3. After the previous office action, claims 1, 3-10, 13, 16-18,

20, and 36 stood rejected.

Claim Rejections - 35 USC § 101
4. 35 U.S.C. 101 reads as follows:

   Whoever invents or discovers any new and useful process,

   machine, manufacture, or composition of matter, or any new and

   useful improvement thereof, may obtain a patent therefor,

   subject to the conditions and requirements of this title.

   The claims fail to provide a tangible result, and there must
   be a practical application, by either:

1) transforming (physical thing) or

2) by having the FINAL RESULT (not the steps) achieve or produce

a useful (specific, substantial, AND credible),

concrete (substantially repeatable/non-unpredictable), AND

tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory

and non-statutory subject matter, must be amended. A claim

that recites a computer that solely calculates a mathematical

formula is not statutory.

Claims 1, 3-10, 13, 16-18, and 20 are rejected under 35

U.S.C. 101 because the claimed invention is not directed to a

practical application and violates the doctrine of preemption.

Amended independent claim 1 recites a "computer readable medium

embodying a program of instructions executable by a processor to

perform a method deriving knowledge from parameters and data"

producing a final result of "outputting the knowledge derived by

the inference to the program of instructions". The recited

"knowledge" derived "from parameters and data" is considered to

be a mathematical abstraction of logical reasoning. The method

for "deriving knowledge from parameters and data" is considered

to be an algorithm. The final result of "outputting the

knowledge derived by the inference to the program of

instructions" does not provide a specific and substantial result

such as the final share price, momentarily fixed for recording

and reporting, in *State Street;* as the knowledge recited does

not represent specific and substantial entities and

relationships in a real-world problem domain.

Further, since knowledge derived from "parameters" and

"data" can represent any conceivable thing or situation, claim

1 violates the doctrine of preemption by seeking patent

protection for the application of the claimed method to every

substantial application. Claims 3-10, 13, 16-18, and 20 merely

provide further algorithmic limitation of claim 1, and thus do

not cure the deficiency of claim 1. Therefore claims 1, 3-10,

13, 16-18, and 20 are considered non-statutory under 35

U.S.C. 101.

6. Claim 36 is rejected under 35 U.S.C. 101 because the claimed

invention is not directed to a practical application and

violates the doctrine of preemption. Amended independent claim

36 recites a system with a memory and processors for "executing

a program of instructions in communication with an externalized

inference component" producing a final result of "evaluating the

data of an externalized inferencing component…and outputting the

knowledge derived by the inference to the program of

instructions". The final result is not considered to provide a

specific and substantial result, such as the final share price,

momentarily fixed for recording and reporting, of *State Street*,

as the claimed output knowledge does not represent specific and

substantial real-world entities or relationships. Further,

since knowledge derived from parameters and data can represent

any conceivable thing or situation, claim 36 violates the

doctrine of preemption by seeking patent protection for a device

which applies the method of claim 1 to every substantial

application. Claim 36 is therefore considered to be non-

statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or
> patented or described in a printed publication in this or a foreign
> country, before the invention thereof by the applicant for a patent.

8. Claims 1-33 are rejected under 35 U.S.C. 102(a) as being

anticipated by **IBM**, "WebSphere Application Server Enterprise

Services Business Rule Beans (BRBeans)", 2001.

Regarding claim 1. (Currently Amended) A computer readable

medium (not further defined) embodying a program of instructions

executable by a processor to perform a method for deriving

knowledge from parameters and data (*see p. 8, §Getting Started*

with BRBeans, *Examiner interprets steps 1 and 2 to install a*

program of instructions on a computer readable medium e.g., a

disk drive, of an AE server to be embodying a program of

instructions executable by a processor.), the method comprising:

passing the parameters (not further defined) to an

externalized inferencing component upon executing a trigger

point in the program of instructions (*see pp. 26-27,*

§Situational Trigger Point - an example, code fragment, *Examiner*

interprets: a classifier rule to be an externalized inferencing

component (Business Rule Bean (see pp. 2-4)) the data of the

externalized inferencing component to be the "Customer cust"

object, "TriggerPoint tp" to be a trigger point, and "Object []

classifierPlist" to comprise parameters passed by a trigger

point within the program of instructions to perform an

inference, and "result = tp.triggerSituational(this,

classifiedPlist, classifierPlist, classifiedRule,

classifierRuleName)" to be the point where execution occurs.);

evaluating, by the externalized inferencing component, the

data comprising a set of rules to be interpreted of an

externalized inferencing component in the presence of against

the parameters to perform an inference external to the program

of instructions passed by a trigger point within the program of
instructions to perform an inference (*see* §The BRBeans framework
– overview, BRBeans EJBs, p. 18 and §Runtime behavior, p. 32-33,
Examiner interprets the "WebSphere application server in which
the BRBeans EJBs are installed" to comprise relational databases
in which all rule classes, entity classes, and trigger point
classes are implemented in relational database tables. Thus any
evaluation of data comprising a set of externalized inferencing
rules against parameters to perform an inference are simply
queries applied to the associated tables defined in WebSphere.),
wherein the externalized inferencing component is in
communication with the program of instructions (*see* p. 20,
Examiner interprets the "Firing Location" parameters to govern
how the externalized inferencing component is in communication
with the program of instructions.), wherein the inference is a
derivation of the knowledge (*see* p. 45, §Writing your own
strategies, steps 1-3, *Examiner interprets the "firing strategy*
fires the rules found by the finding strategy, possibly modified
by the filtering strategy…gathers up the results of the
individual rules and these results are passed to the combining
strategy" to implement derivation of the knowledge through
firing a rule (i.e., inferencing).);

storing the knowledge derived by the inference with the data (*see* §The BRBeans framework – overview, BRBeans EJBs, p. 18 and §Runtime behavior, p. 32-33, *Examiner interprets the "WebSphere application server in which the BRBeans EJBs are installed" to comprise relational databases in which all rule classes, entity classes, and trigger point classes are implemented in relational database tables. Thus knowledge derived (e.g., business situation knowledge) is necessarily stored in the database along with the data giving rise to the situational inference.*); and

outputting the knowledge derived by the inference to trigger point of the program of instructions (*see* p. 45, §Writing your own strategies, step 3, *Examiner interprets passing the results of steps 1-3 "to the combining strategy" to be outputting the knowledge derived by the inference to the program of instructions "to produce the final result of the trigger".*).

Regarding claim 36. (Currently Amended) A system for executing a program of instructions in communication with an externalized inference component (*see* p. 2, *Examiner interprets "Websphere" to be system for executing a program of instructions in*

communication with an externalized inference component.)

comprising:

a memory device storing data, the program of instructions

and the externalized inference component (*see* pp. 6-8, Examiner

interprets a "relational databases…supported by BRBeans" to be

memory devices storing data.);

a processor for receiving the data and executing the

plurality of instructions and the externalized inference

component to perform a method for deriving knowledge from the

data (*see* p. 47, "If these are not specified, then the name

server used by the container in which the application is running

is used. If the application is not running in a container, then

localhost is used for the host name, and 900 is used for the

port number.", *Examiner interprets the "name server" or the*

"localhost" to be computers comprising a processor for receiving

the data and executing the plurality of instructions and the

externalized inference component to perform a method for

deriving knowledge from the data.) comprising:

passing the parameters to an externalized inferencing

component upon executing a trigger point in the program of

instructions (*see* pp. 26-27, §Situational Trigger Point -

an example, code fragment, *Examiner interprets: a*

classifier rule to be an externalized inferencing component

(Buisness Rule Bean (see pp. 2-4)) the data of the

externalized inferencing component to be the "Customer

cust" object, "TriggerPoint tp" to be a trigger point, and

"Object [] classifierPlist" to comprise parameters passed

by a trigger point within the program of instructions to

perform an inference, and "result =

tp.triggerSituational(this, classifiedPlist,

classifierPlist, classifiedRule,classifierRuleName)" to be

the point where execution occurs.);

evaluating, by the externalized inferencing component,

the data comprising a set of rules to be interpreted of an

externalized inferencing component in the presence of

against the parameters to perform an inference external to

the program of instructions passed by a trigger point

within the program of instructions to perform an inference

(see), wherein the externalized inferencing component is

in communication with the program of instructions (*see* p.

20, *Examiner interprets the "Firing Location" parameters to*

govern how the externalized inferencing component is in

communication with the program of instructions.), wherein

the inference is a derivation of the knowledge (*see* p. 45,

§Writing your own strategies, steps 1-3, *Examiner*

interprets the "firing strategy fires the rules found by

the finding strategy, possibly modified by the filtering

strategy…gathers up the results of the individual rules and

these results are passed to the combining strategy" to

implement derivation of the knowledge through firing a rule

(i.e., inferencing).);

storing the knowledge derived by the inference with

the data (*see* §The BRBeans framework – overview, BRBeans

EJBs, p. 18 and §Runtime behavior, p. 32-33, *Examiner*

interprets the "WebSphere application server in which the

BRBeans EJBs are installed" to comprise relational

databases in which all rule classes, entity classes, and

trigger point classes are implemented in relational

database tables. *Thus knowledge derived (e.g., business*

situation knowledge) is necessarily stored in the database

along with the data giving rise to the situational

inference.); and

outputting the knowledge derived by the inference to

trigger point of the program

of instructions (*see* p. 45, §Writing your own strategies,

step 3, *Examiner interprets passing the results of steps 1-*

3 "to the combining strategy" to be outputting the

knowledge derived by the inference to the program of

instructions *"to produce the final result of the*

trigger".).

Regarding claim 3. (Currently Amended) *IBM* teaches the method of

claim 1, wherein the data is stored in persistent memory

external to the program of instructions (*see* pp. 6-8, §Database

considerations, *Examiner interpret DB2, Oracle, Sybase, and*

Informix to store data in persistent memory external to the

program of instructions.).

Regarding claim 4. (Currently Amended) *IBM* teaches the method of

claim 1, wherein the externalized inferencing component includes

at least one of a short term fact, an inference rule, an

inference engine, a static variable mapping, a sensor, an

effector, a long term fact, and a conclusion (*see* pp. 22-29,

§Trigger Point Framework - overview).

Regarding claim 5. (Currently Amended) *IBM* teaches the method of

claim 1, wherein the externalized inferencing component includes

at least one of a short term fact component, an inference rule

set component, an inference engine component, a static mapping

component, a sensor component, an effector component, a long

term fact component, and a conclusion component (*see* p. 22,
§*Trigger Point Framework – overview*, *Examiner interprets "the*
BRBeans trigger point" to be part of the BRBeans externalized
inferencing component set.).

Regarding claim 6. (Previously Presented) *IBM* teaches the method
of claim 2, wherein the externalized inferencing component is
one of a consumer of data provided by an inferencing component,
a supplier of data provided by an inferencing component, and a
combination thereof (*see* pp. 26-27, §*Situational Trigger Point –*
an example, code fragment, *Examiner interprets: the*
externalized inferencing component to be the "Customer cust"
object to be one of a consumer of data provided by an
inferencing component.).

Regarding claim 7. (Previously Presented) *IBM* teaches the method
of claim 1, further comprising the step of associating the
trigger point with the program of instructions (*see* pp. 26-27,
§*Situational Trigger Point – an example, code fragment*, *Examiner*
interprets the method name called to associate the trigger point
with the program of instructions, e.g., setCombiningStrategy in
tp.setCombiningStrategy.).

Regarding claim 8. (Original) *IBM* teaches the method of claim 4,

wherein trigger points operate either synchronously or

asynchronously (see p. 47, §As Of date, *Examiner interprets "in*

effect" to allow trigger points to fire rules synchronously and

the setAsOfDate method on the TriggerPoint object to to allow

trigger points to fire rules asynchronously.).

Regarding claim 9. (Previously Presented) *IBM* teaches the method

of claim 1, wherein the externalized inferencing component is a

master inferencing component that employs at least one other

externalized inferencing component (*see* pp. 26-27, §Situational

Trigger Point - an example, code fragment, *Examiner interprets:*

"TriggerPoint tp" to be a master inferencing component that

employs at least one other externalized inferencing component, a

classifier rule (Buisness Rule Bean (see pp. 2-4)).).

Regarding claim 10. (Previously Presented) *IBM* teaches the

method of claim 1, wherein the externalized inferencing

component employs an inferencing engine (*see* p. 45-46, §Writing

your own strategies, *Examiner considers the TriggerPoint*

strategies (FindingStrategy, FilteringStrategy, FiringStrategy,

and CombiningStrategy) to comprise an inferencing engine as they

control rule firing.).

Regarding claim 13. (Previously Presented) *IBM* teaches the

method of claim 1, wherein the externalized inferencing

component is composed of at least one inferencing subcomponent

(*see* pp. 45-46, §Writing your own strategies, *Examiner*

interprets: "TriggerPoint tp" to be an inferencing component

composed inferencing subcomponents, TriggerPoint strategies

classes (FindingStrategy, FilteringStrategy, FiringStrategy, and

CombiningStrategy).).

Regarding claim 16. (Previously Presented) *IBM* teaches the

method of claim 1, further comprising sharing the externalized

inferencing component by reference with at least one other

externalized inferencing component (*see* p. 47, §The BRBeans

Properties file, "When an application attempts to reference

BRBeans EJBs, the code will first look for the

brbPropertiesFile Java property. If this property is specified,

then the names listed in that file

are used to find the EJBs, overriding any EJB references that

were specified in the

container (if the application is running in a container). If the

property is not specified, then

BRBeans attempts to use the EJB references specified in the

container.").

Regarding claim 17. (Previously Presented) *IBM* teaches the

method of claim 1, wherein the externalized inferencing

component performs method steps to one of create, update and

delete another externalized inferencing component (*see* p. 34,

§Rule Management APIs, IRule, "This is the interface used to

access the object representing a business rule in BRBeans. It

provides methods to read and update attributes of the rule, to

delete the rule, and to make a copy of the rule. The methods to

create rules are on the IRuleFolder interface since you must

always create a rule into a particular folder.", *Examiner*

interprets the "com.ibm.websphere.brb.mgmt package" to comprise

externalized inferencing components.).

Regarding claim 18. (Previously Presented) *IBM* teaches the

method of claim 1, wherein an algorithm of the externalized

inferencing component for performing the evaluation is shared by

a plurality of externalized inferencing components (*see* pp. 26-

27, §Situational Trigger Point - an example, code fragment,

Examiner interprets class "TriggerPoint" to be an externalized

inferencing component for performing the evaluation which can be

shared by a plurality of externalized inferencing components by simply creating an instance, *"TriggerPoint tp", and then calling the instance, as in "result = tp.triggerSituational(this,…)", to perform an evaluation.*).

Regarding claim 20. (Previously Presented) *IBM* teaches the method of claim 1, further comprising providing an inference component management facility to administer externalized inferencing components, the administration including operations to create, retrieve, update, and delete (*see* p. 18, BRBeans Rule Management Application, "The BRBeans Rule Management Application is implemented as a Java Application that runs stand-alone, remotely or locally to the BRBeans rule server. It is used to create, update, expire, and delete BRBeans Rules, and can also be used to interactively import and export BRBeans Rules from/to XML.", *Examiner interprets the "BRBeans Rule Management Application" to provide an inference component management facility to administer externalized inferencing components, the administration including operations to create, retrieve, update, and delete.*).

Response to Arguments

9.   Applicant's arguments filed February 19, 2008 have been

fully considered but they are not persuasive.

   <u>Rejection of Claims 1, 3-10, 13, 16-18, 20 and 36 Under 35</u>

<u>U.S.C. §101</u>

Applicants argue:

       Claims 1, 3-10, 13, 16-18, 20 and 36 have been
   rejected under 35 USC 101, as failing to be directed to a
   practical application and in addition for violating the
   doctrine of preemption.

       Claims 1 and 36 claim, inter alia, "passing the
   parameters to an externalized inferencing component upon
   executing a trigger point in the program of instructions;
   evaluating, by the externalized inferencing component, the
   data comprising a set of rules to be interpreted against
   the parameters to perform an inference external to the
   program of instructions, wherein the externalized
   inferencing component is in communication with the program
   of instructions, wherein the inference is a derivation of
   the knowledge; storing the knowledge derived by the
   inference with the data; and outputting the knowledge
   derived by the inference to trigger point of the program of
   instructions."

       Such an application of an externalized inferencing
   component evaluating parameters passed by a trigger point
   to perform an inference is believed to be a practical
   application of a method (embodied in a computer readable
   medium (see Claim 1) and a system for executing a program
   of instructions in communication with an externalized
   inference component (see Claim 36)). Consider that in
   Diamond v. Diehr, 450 U.S. 175,209 USPQ 1 (1981), the Court
   noted, "when [a claimed invention] is performing a function
   which the patent laws were designed to protect (e.g.,
   transforming or reducing an article to a different state or
   thing), then the claim satisfies the requirements of

Section 101." Diehr, 450 U.S. at 192. In Claims 1 and 36,
the claimed a computer processes perform inferencing
external to a program of instructions, passing parameters
by a trigger point for evaluation by an externalized
inferencing component to perform the inferencing (external
to the program of instruction). Thus, the claimed process
is believed to be statutory as being limited to a practical
application in the technological arts of computer
programming.

Therefore, Claims 1 and 36 are believed to be directed
towards statutory subject matter.

Examiner's response:

Examiner disagrees. The applicant argues "Such an

application of an externalized inferencing component

evaluating parameters passed by a trigger point to perform

an inference is believed to be a practical application."

What is the practical application?

Performing inference external to some "program of

instructions" is no more than calling some external

procedure with arguments or parameters. That the external

procedure performs "inferencing" does not place its

operation outside the control framework of any other type

of performing code (e.g., a numerical simulation). Both

the external procedure and the program of instructions that

calls the external procedure run under the control of some

application sever or, minimally, under some operating

system running internally to some computer. Neither

process is or performs a tangible transformation of real-

world entities. As defined on pages 3-4 of the

Specification, the inferencing components and their

organization constitute a set of mathematical abstractions

of data structure and control flow. Pages 6-7 of the

Specification provide further formalisms "for orchestrating

application behavior":

> The general idea is to replace logic normally embedded
> within applications by trigger points that in turn
> appeal to external authorities to perform the desired
> processing. The variability of applications so
> engineered can then be easily and dynamically
> manipulated without altering the rule-driven
> applications themselves. The placement of trigger
> points at various layers of an application enables
> corresponding levels of rules abstraction.
> Centralization of the externalizable logic and data
> advances the possibilities for understandability,
> consistency, reuse, and manageability while
> coincidentally reducing the maintenance costs of the
> sundry applications employing trigger points and rules
> across an enterprise.

Indeed, the practical results of: "understandability,

consistency, reuse, manageability" and "reducing the

maintenance costs of the sundry applications" are advanced

as possibilities or are simply *coincidental* to the process

of abstraction comprising the externalization of logic.

Examiner interprets this to mean Applicant's invention is

not directed toward a practical application and is not

considered to be statutory under 35 U.S.C. §101.

Applicants argue:

    Turning now to the suggestion that the claims violated
    the doctrine of preemption: that is whether the claim
    would, in reality, preempt the use of a law of nature or
    abstract idea. While one may not patent a process that
    comprises every substantial practical application of an
    abstract idea, because such a patent in practical effect
    would be a patent on the abstract idea itself, the claims
    are clearly presented in terms of a computer readable
    medium (see Claim 1) and a system for executing a program
    of instructions in communication with an externalized
    inference component (see Claim 36). Accordingly, the claims
    are not directed to mere abstract ideas but include
    limitations that are both concrete and tangible. Consider
    the method step of "evaluating, by the externalized
    inferencing component, the data comprising a set of rules
    to be interpreted against the parameters to perform an
    inference external to the program of instructions, wherein
    the externalized inferencing component is in communication
    with the program of instructions, wherein the inference is
    a derivation of the knowledge" (emphasis added), which
    comprises substantial limitations outside the realm of mere
    abstraction such as a mathematical formula without a
    practical application. While such a limitation may cover a
    board range of computer readable mediums and systems for
    executing a program of instructions, the claims clearly
    rise above the level of an abstract idea.

Examiner responds:

    Examiner disagrees.

The courts have also held that a claim may not preempt ideas,

laws of nature or natural phenomena. The concern over preemption

was expressed as early as 1852. See Le Roy v. Tatham, 55 U.S.

(14 How.) 156, 175 (1852) ("A principle, in the abstract, is a

fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

The Courts have found that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. As the Supreme Court has made clear, " [a]n idea of itself is not patentable," *Rubber-Tip Pencil Co. v. Howard,* 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

First, computer readable media are not considered to be the object of Applicant's invention. Rather, Applicant's invention is directed toward techniques of restructuring

'control flow' within computer programs using a programming

abstraction called a "trigger point" :

> The general idea is to replace logic normally embedded
> within applications by trigger points that in turn
> appeal to external authorities to perform the desired
> processing. The variability of applications so
> engineered can then be easily and dynamically
> manipulated without altering the rule-driven
> applications themselves. The placement of trigger
> points at various layers of an application enables
> corresponding levels of rules abstraction. (see
> Specification, p. 7)

Second, the final result of amended independent claims 1

and 36 is the derivation and storage of knowledge per se

which Examiner considers abstract. Applicants do not limit

knowledge to any particular domain nor do they limit

'inference' to any particular type (e.g., deontic logic

(*see* http://en.wikipedia.org/wiki/Deontic logic)). Thus,

the externalization technique disclosed can be applied to

any type of knowledge using any type of reasoning.

Examiner considers this to clearly cover every substantial

practical application of the abstract idea of

externalization of inferencing. Examiner maintains

rejection of claims 1 and 36 under 35 USC 101. Claims 3-

10, 13, 16-18, 20 provide the technical details of the

externalization technique, which does not cure the

deficiency of claim 1. Therefore, claims 1, 3-10, 13, 16-

18, 20 and 36 are considered non-statutory under 35 USC

101.

Rejection of Claims 1-33 Under 35 U.S.C. §102(a)

Applicants argue:

     The externalized business rules of IBM are not
analogous to externalized inferencing components as claimed
in Claim 1. For example, one could write an externalized
business rule as described in IBM, however, IBM does not
teach how to cause the externalized business rule to do
inferencing. The externalized business rules of IBM are
used for making classifications and do not include
inference components - for example, the derivation rule
(page 3 of IBM) simply returns a "value." IBM does not
teach that the value is new knowledge. The claimed
inferencing derives new knowledge from rules and knowledge
(data and parameters). IBM simply does not teach
inferencing. More particularly, the RuleImplementor does
not evaluate "data comprising a set of rules to be
interpreted against the parameters to perform an inference
external to the program of instructions" essentially as
claimed in Claim 1.

Examiner responds:

Examiner disagrees. The externalized business rules of IBM

are analogous to externalized inferencing components as

claimed in Claim 1. IBM teaches how to cause the

externalized business rule to do inferencing in the Trigger

Point code examples on pages 25-27 and the description of

Runtime behavior on pages 32-33. IBM clearly states that

externalized business rules can "return any type of value

that makes sense in a business context" (*see* IBM,

§Derivation rule, p.3). The question is what sort of

things a "value" can take or hold or point to. IBM at p.

21, §Returning results from rules, specifies that "the

return type on the fire method is java.lang.Object" which

is the superclass of all Java objects and not simply a

"value." Clearly, any object definable in Java can be

result from rule firing (e.g., Jess objects (*see*

http://en.wikipedia.org/wiki/Jess_programming_language and

http://www.jessrules.com/)). Examiner considers the

Classifier Trigger Point (*see* IBM, p. 25) to teach that the

value is new knowledge. Clearly, determining "what sort of

business situation is present" at some instant of time is

new knowledge, since every instant of time is non-

recurring. Examiner considers dependent rules to teach

that inferencing derives new knowledge (especially when

used to classify situations) from rules and knowledge (data

and parameters) (*see* IBM, §Dependent Rules, p. 21). Thus

IBM does teach inferencing, essentially as claimed in Claim

1.

Applicants argue:

> Turning to the operation of lBM's IF/THEN statement;
> the IF/THEN statement of IBM is a conditional statement
> used in only classification and lacks inherent inferencing
> capabilities. The IF/THEN statement, on its own, lacks the
> complexity for deriving knowledge. The IF/THEN statement is
> merely a logical argument that cannot be considered an
> inference as it, by itself, does not derive knowledge.

Examiner responds:

First, consider Applicants' description of the application

of IF/THEN (conditional) reasoning in the claimed

invention. Applicants recognize that inference rules are

typically IF/THEN rules:

> …inference rules are typically statements of the form
> "if condition is 'condition x' then result is 'result
> x'". "Rule:1 (a)" represents "if condition is
> 'condition a' then result is 'result a'". Similarly,
> "Rule:2 (b)" represents "if condition is 'condition b'
> then result is 'result b'". (*see* Specification, p. 22)

Then, Applicants statically and dynamically form IF/THEN

rules:

> A composition, such as EIC 740, can occur
> statically (prior to runtime) or dynamically (at
> runtime). "Rule:3 (c0)" represents "if condition is
> 'condition c0' then result is 'result c0'". Similarly,
> "Rule:4 (dl)" represents "if condition is 'condition
> dl' then result is 'result dl'".
>
> More concretely, "Rule:3 (c)" might represent
> "if customer status 'c' then give customer discount
> 'c'"; "c->c0" might represent "substitute 'condition:
> bronze, result: 10 percent' for 'c'"; the combination
> results in: if customer has status 'bronze' then give

customer discount '10 percent'. (*see* Specification, p.
26)

See also page 27 of the Specification. Clearly Applicants

apply IF/THEN constructs as representations of inference

rules. Now, consider a simple definition of logical

implication:

> For the sake of clarity and simplicity in the present
> introduction, it is convenient to use the two-sign
> notation, but allow the sign "->" to denote the
> boolean function that is associated with the truth
> table of the material conditional. These
> considerations result in the following scheme of
> notation.
> p -> q   p => q
> if p then q   p implies q

> (see http://en.wikipedia.org/wiki/Logical_implication)

Clearly, a conditional statement may be considered to be a

type of logical implication or inference.

Applicants argue:

> Further, IBM fails to teach that an output of the
> RuleImplementor may be added to data; IBM does not teach
> "storing the knowledge derived by the inference with the
> data" as claimed in Claim 1.

Examiner responds:

IBM does teach that an output of the RuleImplementor may be

added to data. First, the RuleImplementor is an interface

class the performs common functions for instances of the

class BRBeans Rule. Now, the attributes of the BRBeans

Rule EJB are stored within a database table (*see* IBM,

§Database considerations, p. 6). Examiner interprets the

runtime behavior of RuleImplementor to imply that when an

instance of RuleImplementor,

> 6. … maxRuleImpl returns a ConstraintReturn object to
> the Rule indicating the result of its comparison. This
> ConstraintReturn is returned to the trigger point
> framework…(*see* IBM, §Runtime behavior, p. 33)

to mean the ConstraintReturn object is returned to and

stored in a userDefinedData field in a database table (*see*

IBM, §Database considerations, p. 6).

IBM does teach "storing the knowledge derived by the

inference with the data" where knowledge, as rules, are

stored in a "database table". Examiner interprets the

"WebSphere application server in which the BRBeans EJBs are

installed" to comprise relational databases in which all

rule classes, entity classes, and trigger point classes are

implemented in relational database tables. Thus knowledge

derived (e.g., business situation knowledge) is *necessarily*

stored in the database along with the data giving rise to

the situational inference (*see* §The BRBeans framework –

overview, BRBeans EJBs, p. 18 and §Runtime behavior, p. 32-

33).

Applicants argue:

    Claims 3-10, 13, 16-18 and 20 depend from Claim 1. The
dependent claims are believed to be allowable for at least the
reasons given for Claim 1. Claims 2, 11-12, 14-15, 19 and 21-33
have been cancelled. The Examiner's reconsideration of the
rejection is respectfully requested.

    Claim 36 is believed to be allowable for at least the
reasons given for Claim 1.

Examiner responds:

    Examiner maintains the rejection of claims 1 and 36 under

    35 U.S.C. §102(a). Claim 1 is not allowable and therefore,

    the dependent claims 3-10, 13, 16-18 and 20 are not

    allowable.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the

extension of time policy as set forth in 37 CFR 1.136(a).

    A shortened statutory period for reply to this final action

is set to expire THREE MONTHS from the mailing date of this

action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action

is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will

expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated

from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier

communications from the examiner should be directed to Nathan H.

Brown, Jr. whose telephone number is 571-272- 8632. The

examiner can normally be reached on M-F 0830-1700. If attempts

to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, David Vincent can be reached on 571-272-

3080. The fax phone number for the organization where this

application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be

obtained from the Patent Application Information Retrieval

(PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system,

see http://pair-direct.uspto.gov. Should you have questions on

access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Nathan H. Brown, Jr.
May 22, 2008

/David R Vincent/
Supervisory Patent
Examiner, Art Unit 2129